ENVIRONMENTAL SERVICE AND TECHNOLOGY CORPORATION

March 27, 2013

Ms. Susan D. Mackert
Virginia Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, Virginia 22193

RE: VPDES Permit No. VA0087696 Renewal Application
Madison Wood Preservers, Inc.
ENSAT Project No. 99A-1374

Dear Ms. Mackert:

Please find attached the VPDES Permit Renewal Application for Madison Wood Preservers, Inc. (VA 0087696). This renewal application consists of the following: General Form 1, Form 2F (both outfall 001 and outfall 002), and the VPDES Permit Application Addendum. The following are also included as Attachments: Site Maps (Attachment A), Permit Analytical Data and Outfall Analytical Summary (Attachment B), MSDS Sheets (Attachment C), and VDEQ Correspondence (Attachment D).

On behalf of our client, Madison Wood Preservers Inc., ENSAT Corporation submitted a sampling waiver request from the testing requirements of the permit renewal application on February 5, 2013. The VDEQ issued its response to the waiver request on February 15, 2013. A copy of this letter is included in Attachment D.

As per the current permit requirement, VPDES Outfall 001 is sampled on a monthly basis for pentachlorophenol. Review of monthly outfall 001 analytical data (Attachment B) indicates that pentachlorophenol was sampled 35 times over the past three (3) years. Each time, the pentachlorophenol analytical result was below the method reporting limit of 10 ug/l (micrograms per liter or parts per billion). Madison Wood has discontinued utilizing pentachlorophenol-containing treatment products and is addressing issues pertaining to past usage through the VRP. This included the excavation and disposal of pentachlorophenol-impacted soils in August 2005. Please see Attachment C for MSDS information on the treatment products currently used by Madison Wood. Since the outfall 001 sampling for pentachlorophenol has not yielded any data above the reporting limit the last three years, it appears that the impacted soil excavation conducted in 2005 has been effective at protecting site storm water from pentachlorophenol impacts. **Madison Wood Preservers requests the removal of pentachlorophenol from the sampling requirements for outfall 001 when the permit is reissued in September 2013.**

As per the current permit requirement, VPDES Outfall 002 is sampled on a semi-annual basis for pentachlorophenol. Review of outfall 002 analytical data (Attachment B) indicates that pentachlorophenol was sampled 12 times over the past three (3) years. Each time, the pentachlorophenol analytical result was below the method reporting limit of 10 ug/l (micrograms

per liter or parts per billion). Since the outfall 002 sampling for pentachlorophenol has not yielded any data above the reporting limit the last three years and pentachlorophenol has never been utilized on this area of the site, **Madison Wood Preservers requests the removal of pentachlorophenol from the sampling requirements for outfall 002 when the permit is reissued in September 2013.**

ENSAT appreciates the opportunity to work with the VDEQ Northern Regional Office on behalf of Madison Wood Preservers. Please do not hesitate to contact me with any questions that you may have. My office phone is (540) 825-9083 ext. 2611, cell phone is (540) 661-8357 and email address is alacy@ensatcorp.com.

Respectfully Submitted,

ENSAT Corporation

3/29/13

Alan M. Lacy
Senior Engineer

Please print or type in the unshaded areas only.

Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERAL INFORMATION
Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F VAD 003086360

LABEL ITEMS	
I.	EPA I.D. NUMBER
III.	FACILITY NAME
V.	FACILITY MAILING ADDRESS
VI.	FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: MADISON WOOD PRESERVERS, INC.

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 Mr. Randell Lillard - Regulatory Compliance Officer	(540) 948-6801

V. FACILTY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 216 Oak Park Road

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 Madison	VA	22727

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 216 Oak Park Road

B. COUNTY NAME: Madison County

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 Madison	VA	22727	113

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
2491 *(specify)* Wood Preserving	NA *(specify)*

C. THIRD	D. FOURTH
NA *(specify)*	NA *(specify)*

VIII. OPERATOR INFORMATION

A. NAME: MADISON WOOD PRESERVERS, INC.

B. Is the name listed in Item VIII-A also the owner? ☑ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other," specify.)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

P *(specify)*

D. PHONE *(area code & no.)*: A (540) 948-6801

E. STREET OR P.O. BOX: 216 Oak Park Road

F. CITY OR TOWN: Madison

G. STATE: VA

H. ZIP CODE: 22727

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*
N VA0087696	P NA

B. UIC *(Underground Injection of Fluids)*	E. OTHER *(specify)*
U NA	VAD003086360 *(specify)* EPA ID Number

C. RCRA *(Hazardous Wastes)*	E. OTHER *(specify)*
R NA	IW-ND-141 *(specify)* State Water Control #

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements. see attachment A

XII. NATURE OF BUSINESS *(provide a brief description)*

Treatment Plant and Storage for Dimsensional Lumber Utilizing CCA (agriculture) and CA (residential)
All treatment facilities 100% under roof (no storm water contact)

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Steve Lillard, President		4/1/13

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 3510-1 (8-90)

Please print or type in the unshaded areas only.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD 003086360

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

FORM 2F NPDES

U.S. Environmental Protection Agency
Washington, DC 20460

Application for Permit to Discharge Storm Water Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (*list*)	B. Latitude			C. Longitude			D. Receiving Water (*name*)
001	38	22	20	78	15	01	Little Dark Run
002	38	22	35	78	15	22	Little Dark Run

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
Not Applicable					

B: You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfalls(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage of disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which received storm water discharges from the facility. See Attachment A

Continue on Page 2

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*	Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*
001	2.2 acres	75 acres	002	0.0 acres (upstream location)	0.0 acres

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas, and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

Lumber only. Sored outside in a pre-staged manner, then placed under lumber wrap prior to shipment to customers.

Pasture fertilizer. Applied once per year in accordance with county extension office recommended rates.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
	No treatment	

V. Nonstormwater Discharges

A. I certify under penalty of law hat the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharged from these outfall(s) are identified in either an accompanying Form 2C or ~~Form 2E~~ application for the outfall.

Name and Official Title *(type or print)*	Signature	Date Signed
Steve Lillard, President		4/1/13

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

On-site observation made with no non-storm discharge present

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

Not applicable

Continued from Page 2

EPA ID Number *(copy from Item 1 of Form 1)*
VAD 003086360

VII. Discharge Information

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided.
Table VII-A, VII-B, VII-C are included on separate sheets numbers VII-1 and VII-2.

E. Potential discharges not covered by analysis – is any toxic pollutant listed in table 2F-2, 2F-3, or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ Yes (*list all such pollutants below*) ☑ No (*go to Section IX*)

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ Yes (*list all such pollutants below*) ☑ No (*go to Section IX*)

IX. Contract Analysis Information

Were any of the analyses reported in Item VII performed by a contract laboratory or consulting firm?

☑ Yes (*list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below*) ☐ No (*go to Section X*)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
ENSAT Corp.	14115 Lovers Lane, Suite 158 Culpeper, VA 22701	540-825-9083	Pentachlorophenol COD Hardness Diss. Arsenic Diss. Chromium Diss. Copper Ethanolamine

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title (*Type Or Print*)	B. Area Code and Phone No.
Steve Lillard, President	(540) 948-6801
C. Signature	D. Date Signed
	4/1/13

EPA ID Number (*copy from Item 1 of Form 1*)
VAD 003086360

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	< 2.2 mg/l	N/A	< 2.2 mg/l	N/A	1	Outfall 001
Biological Oxygen Demand (BOD5)	< 4.9 mg/l	N/A	< 4.9 mg/l	N/A	1	lumber
Chemical Oxygen Demand (COD)	180 mg/l	N/A	< 55.8 mg/l	N/A	12	"
Total Suspended Solids (TSS)	45 mg/l	N/A	45 mg/l	N/A	1	"
Total Nitrogen	1.6 mg/l	N/A	1.6 mg/l	N/A	1	"
Total Phosphorus	< 0.08 mg/l	N/A	< 0.08 mg/l	N/A	1	"
pH	Minimum 6.3	Maximum 6.7	Minimum 6.5	Maximum 6.5	35	"

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Pentachlorophen	< 10	N/A	< 0.92 ug/l	N/A	35	Outfall 001
Hardness	72 mg/l	N/A	41 mg/l	N/A	12	lumber
Diss Arsenic	37 ug/l	N/A	< 6.6 ug/l	N/A	12	"
Diss Chromium	190 ug/l	N/A	< 18.7 ug/l	N/A	12	"
Diss Copper	15 ug/l	N/A	5.7 ug/l	N/A	12	"
Ethanolamine	46 ug/l	N/A	< 7.7 ug/l	N/A	6	"
Values obtained	from sampling	in 2010-2012				
See Attachment	B for outfall	analytical data				

EPA ID Number (*copy from Item 1 of Form 1*)
VAD 003086360

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	< 2.1 mg/l	N/A	< 2.1 mg/l	N/A	1	Outfall 002
Biological Oxygen Demand (BOD5)	< 4.1 mg/l	N/A	< 4.1 mg/l	N/A	1	lumber
Chemical Oxygen Demand (COD)	29 mg/l	N/A	< 8.2 mg/l	N/A	6	"
Total Suspended Solids (TSS)	13 mg/l	N/A	13 mg/l	N/A	1	"
Total Nitrogen	1.95 mg/l	N/A	1.95 mg/l	N/A	1	"
Total Phosphorus	< 0.08 mg/l	N/A	< 0.08 mg/l	N/A	1	"
pH	Minimum 6.4	Maximum 6.7	Minimum 6.6	Maximum 6.6	6	"

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Pentachlorophen	< 10 ug/l	N/A	< 10 ug/l	N/A	6	Outfall 002
Hardness	58 mg/l	N/A	52.2 mg/l	N/A	6	lumber
Diss Arsenic	3.2 ug/l	N/A	< 0.5 ug/l	N/A	6	"
Diss Chromium	0.9 ug/l	N/A	< 0.2 ug/l	N/A	6	"
Diss Copper	4.2 ug/l	N/A	< 1.8 ug/l	N/A	6	"
Ethanolamine	35 ug/l	N/A	< 5.8 ug/l	N/A	6	"
Values obtained	from sampling	in 2010-2012				
See Attachment	B for outfall	analytical data				

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
						Please refer to Parts A and B
						for Outfalls 001 and 002

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
12/6/11	2,460	2.5	> 72	360 gpm (est.)	875,000 gal (est.)

7. Provide a description of the method of flow measurement or estimate.

Q = CIA where Q = peak runoff rate (ft/sec)
C = runoff coefficient
I = average rainfall intensity (in/hr)
A = drainage area (acres)

VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued:** Madison Wood Preservers, Inc.

Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. **Is this facility located within city or town boundaries?** Yes ☐ No ☒

3. **Provide the tax map parcel number for the land where the discharge is located.** DB 95/399

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** None

5. **What is the design average effluent flow of this facility?** N/A MGD

For industrial facilities, provide the max. 30-day average production level, include units:

N/A

In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? Yes ☐ No ☐

If "Yes", please identify the other flow tiers (in MGD) or production levels:

N/A

Please consider the following questions for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is your facility's design flow considerably greater than your current flow?

6. **Nature of operations generating wastewater:**

N/A

____ % of flow from domestic connections/sources

Number of private residences to be served by the treatment works: _____

____ % of flow from non-domestic connections/sources

7. **Mode of discharge:** ☐ Continuous ☐ Intermittent ☐ Seasonal

Describe frequency and duration of intermittent or seasonal discharges:

N/A

8. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point:**

X Permanent stream, never dry

____ Intermittent stream, usually flowing, sometimes dry

____ Ephemeral stream, wet-weather flow, often dry

____ Effluent-dependent stream, usually or always dry without effluent flow

____ Lake or pond at or below the discharge point

____ Other: _____

9. **Approval Date(s):**

O & M Manual N/A **Sludge/Solids Management Plan** N/A

Have there been any changes in your operations or procedures since the above approval dates? Yes ☐ No ☒

N/A = Not Applicable

Attachment A

Site Map

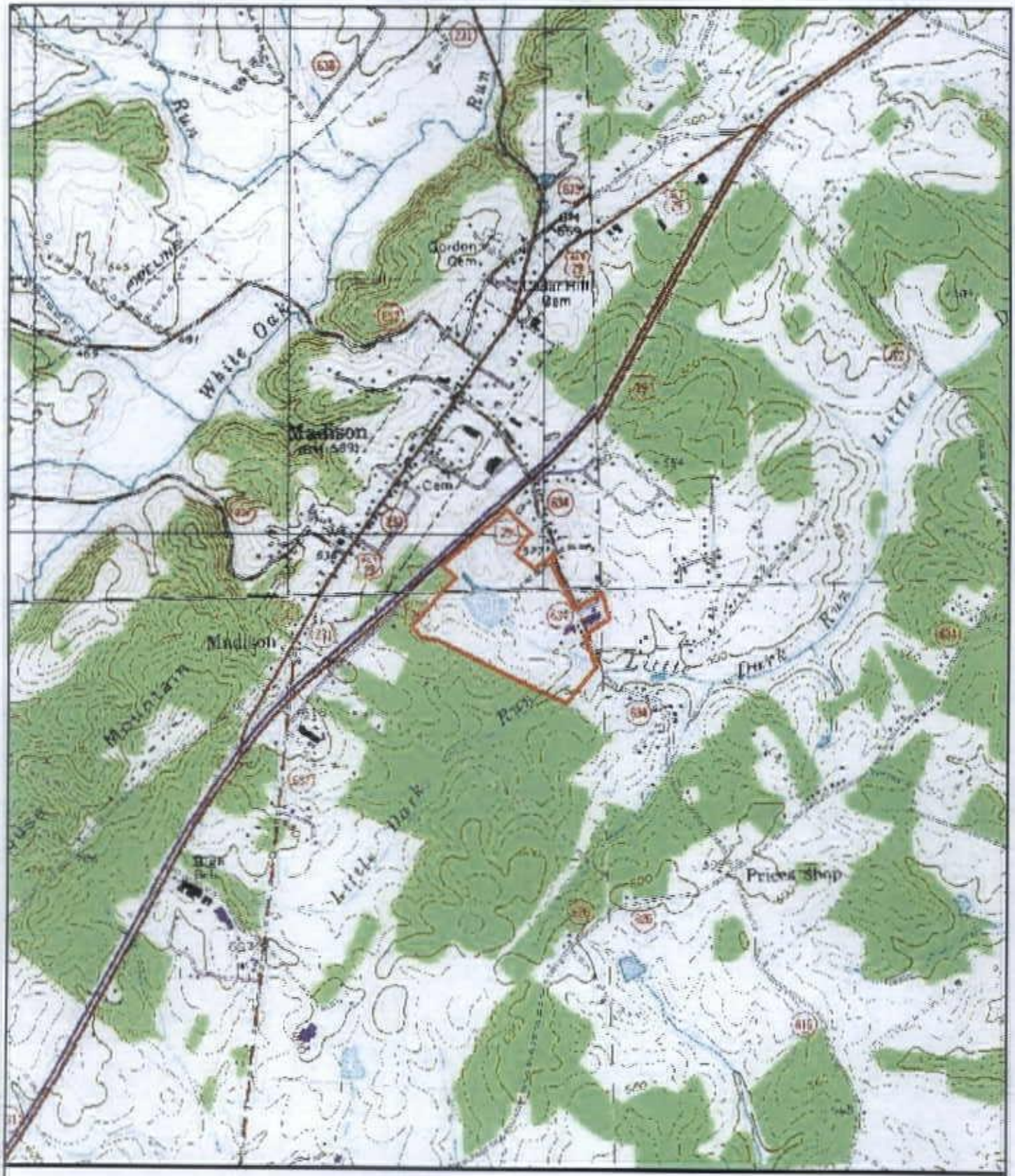

FIGURE 1: SITE LOCATION MAP

Approximate Scale: 1" = 1,875'

LEGEND

- Approximate Property Boundary

ENSAT

NOTES:

TREATMENT PLANT (CCA AST's INSIDE BUILDING)

TANK FARM (CCA MOLD INHIBITOR WAX (WEATHER SHIELD) WATER)

FUELING AREA (4 PETROLEUM AST's)

(#1) 2,000-GALLON DIESEL
(#2) 500-GALLON GAS
(#3) 500-GALLON GAS (ROAD TAX)
(#4) 500-GALLON DIESEL (NO TAX)

REMANUFACTURING (4 PETROLEUM AST's INSIDE BUILDING)

500-GALLON HEATING OIL
150-GALLON USED OIL
150-GALLON ENGINE OIL
150-GALLON HYDRAULIC OIL

LEGEND:

- CCA AST's
- PETROLEUM AST's
- STORMWATER DRAIN
- CULVERTS
- WATER DRAINAGE DIRECTION
- MW-1 GROUNDWATER SAMPLING LOCATION
- SW-001 SURFACE WATER SAMPLING LOCATION
- PROPERTY BOUNDARY
- GRADING PLAN (WEST PAD)
- STREAMS AND PONDS
- 000 CONTOUR LINES

EAISAT
ENVIRONMENTAL SERVICE AND TECHNOLOGY CORPORATION
301 EAST CULPEPER STREET * Culpeper, Virginia 22701
PHONE: (540) 825-9660 * FAX: (540) 825-9667
www.eaistdwp.com

SITE: MADISON WOOD PRESERVERS
MADISON COUNTY, VIRGINIA

JOB# 99A-1374	DATE: 03/24/04	SCALE: 1" = 300'
DWN: VTD	FILE: 02A1870.DWG	PROJECT MANAGER: MLM

Figure 2: Site Layout Map

Attachment B

Permit Analytical Data and Outfall Analytical Data Summary

Madison Wood Preservers
VPDES Permit #: 0087696
Analytical Summary: Outfall 001

	pH	Penta mg/l	COD mg/l	Hardness mg/l	Diss As ug/l	Diss Cr ug/l	Diss Cu ug/l	Ethanolamine ug/l
January-10	6.6	< 10						
February-10	6.4	< 10						
March-10	6.4	< 10	34	72	1.9	3.8	3.5	
April-10	6.4	< 10						
May-10	6.6	< 10						
June-10	6.4	< 10	< 20	44	1	< 1	1.7	< 5,000
July-10	6.5	< 10						
August-10	6.4	< 10						
September-10	6.3	< 10	97	36	18	8	12	
October-10	6.5	< 10						
November-10	6.6	< 10						
December-10	6.5	< 10	52	27	8.9	39	7.4	< 4,000
January-11	6.5	< 10						
February-11	6.5	8*						
March-11	6.4	< 10	< 20	49	1.1	1.6	2.3	
April-11	6.5	< 10						
May-11	6.6	< 10						
June-11	6.4	< 10	30	57	2	2.3	15	< 4,000
July-11	6.5	< 10						
August-11	6.6	< 10						
September-11	6.5	< 10	41	34	4.1	4	4.8	
October-11	6.5	< 10						
November-11	6.6	< 10						
December-11	6.6	< 10	171	50	37	190	15	46
January-12	6.5	< 10						
February-12	6.4	< 10						
March-12	6.5	< 10	< 20	26	< 1	0.84*	0.78*	
April-12	6.6	< 10						
May-12	6.4	< 10						
June-12	6.6	8.5*	31	35	2.8	1.3	3	< 125
July-12	6.6	< 10						
August-12	6.7	< 10						
September-12	6.7	7.6*	33	36	1	2.1	2.4	
October-12	6.5	8.0*						
November-12								
December-12	6.5	< 10	180	26	1.5	0.92*	0.94*	< 250
Average	6.5	< 0.92	< 55.8	41	< 6.6	< 18.7	5.7	< 7.7

mg/l = milligrams per liter

ug/l = micrograms per liter

Penta = Pentachlorophenol
COD = Chemical Oxygen Demand
Blank = no data for date

Diss As = Dissolved Arsenic
Diss Cr = Dissolved Chromium
Diss Cu = Dissolved Copper

* = estimated value (between reporting limit and method detection limit)

Madison Wood Preservers
VPDES Permit #: 0087696
Analytical Summary: Outfall 002

	pH	Penta mg/l	COD mg/l	Hardness mg/l	Diss As ug/l	Diss Cr ug/l	Diss Cu ug/l	Ethanolamine ug/l
January-10								
February-10								
March-10								
April-10								
May-10								
June-10	6.5	< 10	< 20	54	< 1	< 1	1.2	< 10,000
July-10								
August-10								
September-10								
October-10								
November-10								
December-10	6.6	< 10	< 20	51	< 1	< 1	1.8	< 4,000
January-11								
February-11								
March-11								
April-11								
May-11								
June-11	6.6	< 10	29	58	3.2	0.9	4.2	< 4,000
July-11								
August-11								
September-11								
October-11								
November-11								
December-11	6.7	< 10	< 20	54	< 1	< 1	2.4	35
January-12								
February-12								
March-12								
April-12								
May-12								
June-12	6.5	< 10	< 20	46	< 1	< 1	1.4	< 125
July-12								
August-12								
September-12								
October-12								
November-12								
December-12	6.4	< 10	20	50	< 1	< 1	< 1	< 500
Average	6.6	< 10	< 8.2	52.2	< 0.5	< 0.2	< 1.8	< 5.8

mg/l = milligrams per liter

ug/l = micrograms per liter

Penta = Pentachlorophenol
COD = Chemical Oxygen Demand
Blank = no data for date

Diss As = Dissolved Arsenic
Diss Cr = Dissolved Chromium
Diss Cu = Dissolved Copper

* = estimated value (between reporting limit and method detection limit)

Analytical Report for

ENSAT Corporation - VA

Certificate of Analysis No.: 13031902

Project Manager: Alan Lacy
Project Name : Madison Wood
Project Location: Madison, VA
Project ID : 99A-1374

March 27, 2013

Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
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410-747-8770
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PHASE SEPARATION SCIENCE, INC.

March 27, 2013

Alan Lacy
ENSAT Corporation - VA
14115 Lovers Lane, Suite 158
Culpepper, VA 22701

Reference: PSS Work Order(s) No: **13031902**
Project Name: Madison Wood
Project Location: Madison, VA
Project ID.: 99A-1374

Dear Alan Lacy :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **13031902**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on April 23, 2013. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: ENSAT Corporation - VA

Project Name: Madison Wood

Work Order Number(s): 13031902

Project ID: 99A-1374

The following samples were received under chain of custody by Phase Separation Science (PSS) on 03/19/2013 at 10:30 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
13031902-001	1374-001-OUT	SURFACE WATER	03/18/13 14:30
13031902-002	1374-002-IN	SURFACE WATER	03/18/13 14:15

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for non-potable water samples tested for compliance for Virginia Pollution Discharge Elimination System (VDPES) permits and Virginia Pollutant Abatement (VPA) permits, have a maximum holding time of 15 minutes established by 40CFR136.3.

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the LOD.
- LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

Case Narrative Summary

Client Name: ENSAT Corporation - VA

Project Name: Madison Wood

Work Order Number(s): 13031902
Project ID: 99A-1374

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Sample Receipt:

All sample receipt conditions were acceptable.

Analyses associated with analyst code 4020 were performed by Lancaster Labs

General Comments:
Analysis performed outside of the EPA recommended holding time for TSS.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 13031902

ENSAT Corporation - VA, Culpepper, VA

March 27, 2013

Project Name: Madison Wood
Project Location: Madison, VA
Project ID: 99A-1374

Sample ID: 1374-001-OUT **Date/Time Sampled: 03/18/2013 14:30** **PSS Sample ID: 13031902-001**
Matrix: SURFACE WATER **Date/Time Received: 03/19/2013 10:30**

Oil and Grease — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	LOD	Prepared	Analyzed	Analyst
Oil & Grease, Total Recovered	ND	mg/L	2.2		1	1.7	03/25/13	03/25/13 08:16	1028

Inorganic Anions: nitrate, nitrite — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	LOD	Prepared	Analyzed	Analyst
Nitrate (as N)	**1.4**	mg/L	0.10		1	0.1	03/19/13	03/19/13 15:38	1035
Nitrite (as N)	**0.20**	mg/L	0.10		1	0.1	03/19/13	03/19/13 15:38	1035

Total Kjeldahl Nitrogen — Analytical Method: EPA 351.2

	Result	Units	RL	Flag	LOD	Prepared	Analyzed	Analyst
Nitrogen, Total Kjeldahl	ND	mg/L	0.50		0.5	03/22/13	03/22/13 09:50	4020

Nitrogen, Total (TKN, NO3, & NO2) — Analytical Method: EPA 351.2_300.0

	Result	Units	RL	Flag	LOD	Prepared	Analyzed	Analyst
Total Nitrogen(NO2 & NO3 & TKN)	**1.60**	mg/L	0.50		0.5	03/19/13	03/19/13 15:38	4020

Phosphorus — Analytical Method: EPA 365.1

	Result	Units	RL	Flag	LOD	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	ND	mg/L	0.080		0.08	03/25/13	03/25/13 09:11	4020

Total Suspended Solids — Analytical Method: SM 2540D 18th Ed.

	Result	Units	RL	Flag	Dil	LOD	Prepared	Analyzed	Analyst
Suspended Solids	**45**	mg/L	3.8		1	1.9	03/27/13	03/27/13 13:00	1047

Biochemical Oxygen Demand — Analytical Method: SM 5210B

	Result	Units	RL	Flag	LOD	Prepared	Analyzed	Analyst
Biochemical Oxygen Demand, 5 day	ND	mg/L	4.9		4.9	03/20/13	03/20/13 07:18	4020

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 13031902

ENSAT Corporation - VA, Culpepper, VA

March 27, 2013

Project Name: Madison Wood
Project Location: Madison, VA
Project ID: 99A-1374

Sample ID: 1374-002-IN **Date/Time Sampled: 03/18/2013 14:15** **PSS Sample ID: 13031902-002**
Matrix: SURFACE WATER **Date/Time Received: 03/19/2013 10:30**

Oil and Grease — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	LOD	Prepared	Analyzed	Analyst
Oil & Grease, Total Recovered	ND	mg/L	2.1		1	1.6	03/25/13	03/25/13 08:16	1028

Inorganic Anions: nitrate, nitrite — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	LOD	Prepared	Analyzed	Analyst
Nitrate (as N)	**1.7**	mg/L	0.10		1	0.1	03/19/13	03/19/13 16:05	1035
Nitrite (as N)	**0.25**	mg/L	0.10		1	0.1	03/19/13	03/19/13 16:05	1035

Total Kjeldahl Nitrogen — Analytical Method: EPA 351.2

	Result	Units	RL	Flag	LOD	Prepared	Analyzed	Analyst
Nitrogen, Total Kjeldahl	ND	mg/L	0.50		0.5	03/22/13	03/22/13 09:32	4020

Nitrogen, Total (TKN, NO3, & NO2) — Analytical Method: EPA 351.2_300.0

	Result	Units	RL	Flag	LOD	Prepared	Analyzed	Analyst
Total Nitrogen(NO2 & NO3 & TKN)	**1.95**	mg/L	0.50		0.5	03/19/13	03/19/13 16:05	4020

Phosphorus — Analytical Method: EPA 365.1

	Result	Units	RL	Flag	LOD	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	ND	mg/L	0.080		0.08	03/25/13	03/25/13 09:12	4020

Total Suspended Solids — Analytical Method: SM 2540D 18th Ed.

	Result	Units	RL	Flag	Dil	LOD	Prepared	Analyzed	Analyst
Suspended Solids	**13**	mg/L	2.0		1	1	03/27/13	03/27/13 13:00	1047

Biochemical Oxygen Demand — Analytical Method: SM 5210B

	Result	Units	RL	Flag	LOD	Prepared	Analyzed	Analyst
Biochemical Oxygen Demand, 5 day	ND	mg/L	4.1		4.1	03/20/13	03/20/13 07:18	4020

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

March 25, 2013

Project: WO # 13031902 / Proj # 99A-1374

Submittal Date: 03/19/2013
Group Number: 1376364
PO Number: 13031902
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LLI) #
13031902-001 Water	6987793
13031902-002 Water	6987794

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO Phase Separation Science Attn: Report ATT:

Respectfully Submitted,

Angela M. Miller
Specialist

(717) 556-7260

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Sample Description: 13031902-001 Water
WO # 13031902 / Proj # 99A-1374

Project Name: WO # 13031902 / Proj # 99A-1374

Collected: 03/18/2013 14:30

Submitted: 03/19/2013 16:50
Reported: 03/25/2013 14:58

LLI Sample # WW 6987793
LLI Group # 1376364
Account # 09703

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry		**EPA 351.2**		**mg/l**	**mg/l**	
00217	Kjeldahl Nitrogen		n.a.	N.D.	0.50	1
		EPA 365.1		**mg/l**	**mg/l**	
00227	Total Phosphorus as P (water)		7723-14-0	N.D.	0.080	1
		SM 5210 B-2001		**mg/l**	**mg/l**	
00235	Biochemical Oxygen Demand		n.a.	N.D.	4.9	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	13080108101A	03/22/2013 09:50	K Robert Caulfeild-James	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	13081109101A	03/25/2013 09:11	K Robert Caulfeild-James	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	13080108101A	03/21/2013 10:35	Nancy J Shoop	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	13081109101A	03/22/2013 15:00	Carolyn M Mastropietro	1
00235	Biochemical Oxygen Demand	SM 5210 B-2001	1	13079023501A	03/20/2013 07:18	Susan E Hibner	1

Sample Description: 13031902-002 Water
WO # 13031902 / Proj # 99A-1374

LLI Sample # WW 6987794
LLI Group # 1376364
Account # 09703

Project Name: WO # 13031902 / Proj # 99A-1374

Collected: 03/18/2013 14:15

Submitted: 03/19/2013 16:50
Reported: 03/25/2013 14:58

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 351.2**		mg/l	mg/l	
00217	Kjeldahl Nitrogen	n.a.	N.D.	0.50	1
	EPA 365.1		mg/l	mg/l	
00227	Total Phosphorus as P (water)	7723-14-0	N.D.	0.080	1
	SM 5210 B-2001		mg/l	mg/l	
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.1	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	13080108101A	03/22/2013 09:32	K Robert Caulfeild-James	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	13081109101A	03/25/2013 09:12	K Robert Caulfeild-James	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	13080108101A	03/21/2013 10:35	Nancy J Shoop	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	13081109101A	03/22/2013 15:00	Carolyn M Mastropietro	1
00235	Biochemical Oxygen Demand	SM 5210 B-2001	1	13079023501A	03/20/2013 07:18	Susan E Hibner	1

Quality Control Summary

Client Name: Phase Separation Science
Reported: 03/25/13 at 02:58 PM

Group Number: 1376364

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 13080108101A	Sample number(s): 6987793-6987794							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	104		90-110		
Batch number: 13081109101A	Sample number(s): 6987793-6987794							
Total Phosphorus as P (water)	N.D.	0.080	mg/l	96		90-110		
Batch number: 13079023501A	Sample number(s): 6987793-6987794							
Biochemical Oxygen Demand				105		85-115		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 13080108101A	Sample number(s): 6987793-6987794 UNSPK: P989792 BKG: P989792								
Kjeldahl Nitrogen	106		90-110			N.D.	N.D.	0 (1)	20
Batch number: 13081109101A	Sample number(s): 6987793-6987794 UNSPK: P989792 BKG: P989792								
Total Phosphorus as P (water)	101		90-110			0.62	0.60	2	4
Batch number: 13079023501A	Sample number(s): 6987793-6987794 UNSPK: P987189 BKG: P988053								
Biochemical Oxygen Demand	109	109	69-139	0	8	311	288	8	15

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

9703 / 13763 64 / 6988793-94

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : 13031902
P.O. No. :
Project Number : 99A-1374
Report To LOD : Yes

Samples Transferred To:
Lancaster Labs
2425 New Holland Pike
Lancaster, PA 17601
Phone : 717-656-2300

For Questions or issues please contact: Amy Friedlander

Report Due On :03/26/13 05:00

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
13031902-001	1374-001-OUT	03/18/13	14:30	Water	Total Kjeldahl Nitrogen	E351.2	250 ml HDPE	SCPH2
13031902-001	1374-001-OUT	03/18/13	14:30	Water	Phosphorus	E365.1	250 ml HDPE	SCPH2
13031902-001	1374-001-OUT	03/18/13	14:30	Water	Biochemical Oxygen Demand	SM5210B	1L HDPE	COOL
13031902-002	1374-002-IN	03/18/13	14:15	Water	Total Kjeldahl Nitrogen	E351.2	250 ml HDPE	SCPH2
13031902-002	1374-002-IN	03/18/13	14:15	Water	Phosphorus	E365.1	250 ml HDPE	SCPH2
13031902-002	1374-002-IN	03/18/13	14:15	Water	Biochemical Oxygen Demand	SM5210B	1L HDPE	COOL

Data Deliverables Required: QC SUMM

Perform Q.C. on Sample :

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : LANCASTER COURIER

Condition Upon Receipt : _____

Comments :

Samples Relinquished By: _____ Date : 3/19/13 Time: 13:05 Samples Received By : _____

Samples Relinquished By: _____ Date : 3/19/13 Time : 16:50 Samples Received By: _____

Samples Relinquished By: _____ Date: 3/19/13 Time: 1650 Samples Received By: _____

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

Analytical Data Package Information Summary

Work Order(s): 13031902
Report Prepared For: ENSAT Corporation - VA, Culpepper, VA
Project Name: Madison Wood
Project Manager: Alan Lacy

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Received	Prepared	Analyzed
EPA 1664 A	1374-001-OUT	Initial	13031902-001	1028	W	104879	104879	03/18/2013	03/19/2013	03/25/2013	03/25/2013
	1374-002-IN	Initial	13031902-002	1028	W	104879	104879	03/18/2013	03/19/2013	03/25/2013	03/25/2013
	104879-1-BKS	BKS	104879-1-BKS	1028	W	104879	104879	--------	03/19/2013	03/25/2013	03/25/2013
	104879-1-BLK	BLK	104879-1-BLK	1028	W	104879	104879	--------	03/19/2013	03/25/2013	03/25/2013
	104879-1-BSD	BSD	104879-1-BSD	1028	W	104879	104879	--------	03/19/2013	03/25/2013	03/25/2013
	MP401 S	MS	13032003-002 S	1028	W	104879	104879	03/19/2013	03/19/2013	03/25/2013	03/25/2013
EPA 300.0	1374-001-OUT	Initial	13031902-001	1035	W	45261	104910	03/18/2013	03/19/2013	03/20/2013	03/19/2013
	1374-002-IN	Initial	13031902-002	1035	W	45261	104910	03/18/2013	03/19/2013	03/20/2013	03/19/2013
	45261-1-BKS	BKS	45261-1-BKS	1035	W	45261	104910	--------	03/19/2013	03/20/2013	03/19/2013
	45261-1-BLK	BLK	45261-1-BLK	1035	W	45261	104910	--------	03/19/2013	03/20/2013	03/19/2013
	45261-1-BSD	BSD	45261-1-BSD	1035	W	45261	104910	--------	03/19/2013	03/20/2013	03/19/2013
	1374-001-OUT S	MS	13031902-001 S	1035	W	45261	104910	03/18/2013	03/19/2013	03/20/2013	03/19/2013
EPA 351.2	1374-001-OUT	Initial	13031902-001	4020	W	104944	104944	03/18/2013	03/19/2013	03/22/2013	03/22/2013
	1374-002-IN	Initial	13031902-002	4020	W	104944	104944	03/18/2013	03/19/2013	03/22/2013	03/22/2013
EPA 351.2_300.0	1374-001-OUT	Initial	13031902-001	4020	W	104944	104944	03/18/2013	03/19/2013	03/19/2013	03/19/2013
	1374-002-IN	Initial	13031902-002	4020	W	104944	104944	03/18/2013	03/19/2013	03/19/2013	03/19/2013
EPA 365.1	1374-001-OUT	Initial	13031902-001	4020	W	104944	104944	03/18/2013	03/19/2013	03/25/2013	03/25/2013
	1374-002-IN	Initial	13031902-002	4020	W	104944	104944	03/18/2013	03/19/2013	03/25/2013	03/25/2013
SM 2540D 18th Ed.	1374-001-OUT	Initial	13031902-001	1047	W	104981	104981	03/18/2013	03/19/2013	03/27/2013	03/27/2013
	1374-002-IN	Initial	13031902-002	1047	W	104981	104981	03/18/2013	03/19/2013	03/27/2013	03/27/2013
	104981-1-BLK	BLK	104981-1-BLK	1047	W	104981	104981	--------	03/19/2013	03/27/2013	03/27/2013
	1374-001-OUT D	MD	13031902-001 D	1047	W	104981	104981	03/18/2013	03/19/2013	03/27/2013	03/27/2013
SM 5210B	1374-001-OUT	Initial	13031902-001	4020	W	104944	104944	03/18/2013	03/19/2013	03/20/2013	03/20/2013
	1374-002-IN	Initial	13031902-002	4020	W	104944	104944	03/18/2013	03/19/2013	03/20/2013	03/20/2013

Blank Summary 13031902

ENSAT Corporation - VA, Culpepper, VA

Madison Wood

Analytical Method: **EPA 1664 A** Prep Method:

Matrix: **WATER**

Sample Id: **104879-1-BLK** Lab Sample Id: **104879-1-BLK**

Date Analyzed: Mar-25-13 08:16 Analyst: 1028 Date Prep: Tech: 1028

Seq Number: 104879

Parameter	Cas Number	Result	RL	LOD	Units	Flag	Dil
Oil & Grease, Total Recovered	OG_TR	ND	2.000	1.500	mg/L	U	1

Blank Summary 13031902

ENSAT Corporation - VA, Culpepper, VA

Madison Wood

Analytical Method: **EPA 300.0** Prep Method: E300.0P
Matrix: **WATER**

Sample Id: **45261-1-BLK** Lab Sample Id: **45261-1-BLK**

Date Analyzed: Mar-19-13 13:48 Analyst: 1035 Seq Number: 104910 Date Prep: Mar-20-13 16:53 Tech: 1044

Parameter	Cas Number	Result	RL	LOD	Units	Flag	Dil
Nitrate (as N)	7727-37-9	ND	0.1000	0.1000	mg/L	U	1
Nitrite (as N)	7727-37-9	ND	0.1000	0.1000	mg/L	U	1

Blank Summary 13031902

ENSAT Corporation - VA, Culpepper, VA

Madison Wood

Analytical Method: **SM 2540D 18th Ed.** Prep Method:
Matrix: **WATER**

Sample Id: **104981-1-BLK** Lab Sample Id: **104981-1-BLK**

Date Analyzed: Mar-27-13 13:00 Analyst: 1047 Date Prep: Tech: 1047
Seq Number: 104981

Parameter	Cas Number	Result	RL	LOD	Units	Flag	Dil
Suspended Solids	TSS	ND	1.000	0.5000	mg/L	U	1

Sample Duplicate Recovery

Project Name: Madison Wood

Work Order #: 13031902 **Report Date:** 03/27/2013

Lab Batch #: 104981 **Project ID:** 99A-1374

Date Analyzed: 03/27/2013 **Date Prepared:** 03/27/2013 **Analyst:** 1047

QC- Sample ID: 13031902-001 D **Batch #:** 1 **Matrix:** Surface Water

Reporting Units: mg/L

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Total Suspended Solids **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Suspended Solids	44.62	41.86	6	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

Form 3 - MS Recoveries

Project Name: Madison Wood

Work Order #: 13031902 **Report Date:** 03/27/2013

Prep Batch #: **Project ID:** 99A-1374

Date Analyzed: 03/25/2013 **Date Prepared:** 03/25/2013 **Analyst:** 1028

QC- Sample ID: 13032003-002 S **Batch #:** ***** **Matrix:** Waste Water

Reporting Units: mg/L

Oil and Grease Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Oil & Grease, Total Recovered	<1.500	40.00	36.40	91	78-114	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Form 3 - MS Recoveries

Project Name: Madison Wood

Work Order #: 13031902 **Report Date:** 03/27/2013

Prep Batch #: 45261 **Project ID:** 99A-1374

Date Analyzed: 03/19/2013 **Date Prepared:** 03/20/2013 **Analyst:** 1035

QC- Sample ID: 13031902-001 S **Batch #:** ***** **Matrix:** Surface Water

Reporting Units: mg/L

	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Inorganic Anions **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**%R [D]**	**Control Limits %R**	**Flag**
Nitrate (as N)	1.414	5.000	6.651	105	67-127	
Nitrite (as N)	0.2040	5.000	5.138	99	77-122	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

LCS/LCSD Recoveries

Project Name: Madison Wood

Work Order #: 13031902 **Project ID:** 99A-1374

Prep Batch #: **Date Prepared:**03/25/2013 **Sample:** 104879-1-BKS **Analyst:** 1028

Lab Batch ID: 104879 **Date Analyzed:**03/25/2013 **Method:** / E1664 **Matrix:** Water

Units: mg/L

	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Oil and Grease **Analytes**	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Oil & Grease, Total Recovered	<1.500	40.00	36.30	91	40.00	36.00	90	1	78-114	11	

Relative Percent Difference RPD = 200*|(D-G)/(D+G)|
Laboratory Control Sample (LCS) Percent Recovery [D] = 100*(C)/[B]
Laboratory Control Sample Duplicate (LCSD) Percent Recovery [G] = 100*(F)/[E]

Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

LCS/LCSD Recoveries

Project Name: Madison Wood

Work Order #: 13031902
Prep Batch #: 45261
Lab Batch ID: 104910
Units: mg/L

Date Prepared: 03/20/2013
Date Analyzed: 03/19/2013

Sample: 45261-1-BKS
Method: E300.0P / E300.0

Project ID: 99A-1374
Analyst: 1035
Matrix: Water

Inorganic Anions: nitrate, nitrite Analytes	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Nitrate (as N)	<0.1000	5.000	5.231	105	5.000	5.125	103	2	90-110	20	
Nitrite (as N)	<0.1000	5.000	4.874	97	5.000	4.730	95	3	90-110	20	

Relative Percent Difference RPD = 200*|(D-G)/(D+G)|
Laboratory Control Sample (LCS) Percent Recovery [D] = 100*(C)/[B]
Laboratory Control Sample Duplicate (LCSD) Percent Recovery [G] = 100*(F)/[E]

Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) CLIENT: ENSAT-VA OFFICE LOC: Culpeper
PROJECT MGR: Alan Lacy PHONE NO.: 540 825-9093
EMAIL: alan@ensatcorp.com FAX NO.: ( )
PROJECT NAME: Madison Wood PROJECT NO.: ESA-1374
SITE LOCATION: Madison, VA P.O. NO.: 13744ML
SAMPLERS: Alan Lacy DW CERT NO.: N/A

PSS Work Order #: 1303902 PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wrt GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used												REMARKS
							✓	—	—	✓	—								
(3) Analysis/ Method Required							Oil & Grease	BOD	TSS	Tot Phos	Tot N								
1	1374-001-OUT	3/18/13	1430	SW	5	G	X	X	X	X	X								
2	1374-002-IN	3/18/13	1415	SW	5	G	X	X	X	X	X								

(5)

Relinquished By: (1)	Date	Time	Received By:
Alan Lacy	3/18/13	1630	UPS-G
Relinquished By: (2) UPS 1Z237828039143749O	Date 3/19/13	Time 1050A	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Requested Turnaround Time
☒ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:

# of Coolers: 1
Custody Seal: INTACT-COOLER
Ice Present: YES Temp: 1°C
Shipping Carrier: UPS-G

Special Instructions:

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	13031902	**Received By**	Rachel Davis
Client Name	ENSAT Corporation - VA	**Date Received**	03/19/2013 10:30:00 AM
Project Name	Madison Wood	**Delivered By**	UPS
Project Number	99A-1374	**Tracking No**	1z2378280391437490
Disposal Date	04/23/2013	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers 1

Custody Seal(s) Intact?	Yes
Seal(s) Signed / Dated?	Yes

Ice	Present
Temp (deg C)	1
Temp Blank Present	No

Documentation

COC agrees with sample labels?	Yes
Chain of Custody	Yes

Sampler Name	Alan Lacy
MD DW Cert. No.	N/A

Sample Container

Appropriate for Specified Analysis?	Yes
Intact?	Yes
Labeled and Labels Legible?	Yes

Custody Seal(s) Intact?	Not Applicable
Seal(s) Signed / Dated	Not Applicable

Total No. of Samples Received 2

Total No. of Containers Received 10

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(ph<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	Yes
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By: Rachel Davis — Date: 03/19/2013

Rachel Davis

PM Review and Approval: Lynn Moran — Date: 03/27/2013

Lynn Moran

Attachment C

MSDS Sheets

Alan M Lacy

From: "Randell Lillard" <rlillard@madwood.com>
To: "'Alan Lacy'" <alacy@ensatcorp.com>
Sent: Wednesday, February 20, 2008 12:34 PM
Subject: MSDS CA lumber

MATERIAL SAFETY DATA SHEET
Wolmanized ® Residential Outdoor® Wood
December 28, 2005

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Wolmanized ® Residential Outdoor Wood
General Use: Treated Wood Products
Synonyms: Copper Azole Treated Wood, Copper Azole Treated Wood with Water Repellant, Copper Azole Treated Wood with Mold Inhibitor, Copper Azole Treated Formaldehyde Bonded Wood Products.

MANUFACTURER:
Madison Wood Preservers, Inc.
216 Oak Park Rd.
Madison, VA 22727

TELEPHONE NUMBERS:
540-948-6801

2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	PERCENT[1]	CAS #	EXPOSURE LIMITS (mg/m^3)		
			OSHA-PEL	ACGIH-TLV	ACGIH-STEL
Basic Copper Carbonate or Copper Oxide (Both as Cu) (Dust/Mist)	<3	7440-50-8	1.0	1.0	None
Tebuconazole	<1	107534-96-3	None	None	None
Ethanolamine	<1	141-43-5	6.0	7.5	15
Wood Dust[2] Western Red Cedar All other Species	>95	N/A	15(total) 5.0 (respirable) 15(total) 5.0 (respirable)	0.5 (inhalable) 1.0 (inhalable)	None
Formaldehyde[3]	<0.1	50-00-0	0.75ppm	0.37 (Ceiling)	2ppm
Ammonia[4]	<1	7664-41-7	50ppm	25ppm	35ppm

Notes: [1]Actual retention may vary due to differences in wood stock and treatment retention levels.
[2] A state-run OSHA program may have more stringent limits for wood dust and/or PNOR.
[3] Only applies to Plywood Products
[4] Only applies to wood sold in the West Coast and Canadian regions. Ammonia added at 1% to treating solution at local treating facility.

3. HAZARDS IDENTIFICATION

Inhalation: Airborne treated or untreated wood dust may cause nose, throat or lung irritation. Various species of untreated wood dust can elicit allergic respiratory response in sensitized persons.
Eye Contact: Treated or untreated wood dust may cause mechanical irritation.
Skin Contact: Handling wood may result in skin exposure to splinters. Prolonged and/or repeated contact with treated or untreated wood dust may result in mild irritation. Various species of untreated wood dust can elicit allergic type skin irritation in sensitized persons.

Ingestion: Not anticipated to occur.
Chronic Wood Dust (treated or untreated) Effects: Wood dust, depending on species, may cause dermatitis on prolonged, repetitive contact; may cause sensitization and/or irritation.

4. FIRST AID MEASURES

Inhalation: Remove from wood dust exposure. If breathing has stopped administer artificial respiration. Seek medical aid if symptoms persist.
Eye Contact: Gently flush any particles from the eyes with large amounts of water for at least 15 minutes. DO NOT RUB THE EYES. Seek medical aid if irritation persists.
Skin Contact: Rinse wood dust off with water. DO NOT RUB. Once the skin is free of the wood dust, wash thoroughly with soap and water. Seek medical aid if severe irritation develops.
Ingestion: Rinse the victim's mouth out with water. Do not induce vomiting. If symptoms develop, call a physician.

5. FIRE FIGHTING MEASURES

Flash Point	NA	**Lower Explosive Limit**	NA
Auto-ignition	NA	**Upper Explosive Limit**	NA

Extinguishing Agents: Not applicable

Fire-Fighting Procedures: Fire from a separate fuel source may be intense enough to cause thermal decomposition releasing toxic fumes and/or gases. Wear complete fire service protective equipment, including full-face NIOSH and NFPA – approved self-containing breathing apparatus.
Fire and Explosion Hazard: High airborne levels of wood dust may burn rapidly in the air when exposed to an ignition source.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Not applicable.
Waste Disposal: See Section 13.

7. HANDLING AND STORAGE

Storage Conditions: Protect from physical damage. Maintain good housekeeping.
Caution: DO NOT BURN TREATED WOOD. Do not use pressure treated chips or sawdust as mulch. Whenever possible, sawing or machining treated or untreated wood should be performed outdoors to avoid accumulations of airborne wood dust. Wash hands thoroughly before eating, drinking, using tobacco products, and/or using restrooms.
NOTE: For plywood products only, provide adequate ventilation to reduce the possible buildup of formaldehyde vapors.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: None normally required. When sawing or cutting treated or untreated wood, wear a NIOSH approved N95 or better dust mask.
Eye Protection: Wear safety glasses with side shields or safety goggles when sawing or cutting.
Skin/Foot Protection: Leather or comparable gloves to prevent splinters. Long sleeve shirt, pants and steel toed shoes when handling treated or untreated wood.
Ventilation: Saw, cut or machine wood outdoors or in well ventilated areas. Ventilation should be sufficient to maintain inhalation exposures below OSHA PEL for particulates.
Other Protective Equipment: Wear ear plugs or muffs when using power tools.
NOTE: For plywood products only, if Formaldehyde vapor level exceeds OSHA PEL or STEL, then a NIOSH approved respirator is required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Light Brown to Green	**Specific Gravity (Water =1)**	NA
Odor	None	**Boiling Point**	NA
Solubility in Water	NA	**Vapor Density (Air=1)**	NA
Physical State	Solid	**Vapor Pressure**	NA
pH	NA	**Freezing Point**	NA

10. STABILITY AND REACTIVITY

Conditions contributing to instability: None known.
Incompatibilities: Strong acids, open flame and oxidizers.
Hazardous Reactions/Decomposition/Combustion Products: Combustion products may include smoke, toxic fumes or gases.
Hazardous Polymerization: Does not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity Data: IARC has classified untreated hardwood and hardwood/softwood mix wood dust as a Group I human carcinogen. The wood dust classification is based primarily on IARC's evaluation of increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with occupational exposures to untreated wood dust. NTP has classified all untreated wood dust as a carcinogen.

A human health risk assessment has been conducted in accordance with U.S. Environmental Protection Agency (EPA) risk assessment guidance in order to evaluate human health risks associated with exposures to Copper Azole Type B (CA-B) treated wood. Four different scenarios, including occupational (adult builders), resident handler (adult female), subchronic (child) and chronic (child to adult) residential, and playground (child and teenager) were evaluated. Exposures evaluated in the risk assessment include incidental ingestion and dermal contact with dislodgeable residue from the surface of CA-B treated wood and soil impacted with tebuconazole (TEB) and copper, inhalation of sawdust from CA-B treated wood, and inhalation of re-suspended soil particulate. Non-cancer health risks are expressed as margin of exposure (MOE), which is a ratio of the no observed effect level (NOEL) or the lowest observed effect level (LOEL) for a constituent, to an estimated exposure level for the constituent. The greater the MOE, the less likely that exposure to the constituent will pose a potential health risk. Based on the evaluation, the lowest MOE of 170 is for incidental ingestion of copper in the soil for the child resident (ages 1-6 years). Based on EPA guidance, an MOE of 10 is the benchmark for this exposure route. Thus, no adverse health effects are expected. Most of the MOEs calculated in the risk assessment are greater than 1,000, and therefore, none of the exposures to TEB or copper evaluated pose a potential health risk. Cancer risks were not assessed because according to EPA, neither TEB nor copper is a known or probable carcinogen.

12. ECOLOGICAL INFORMATION

Copper Azole treated wood leaching studies were conducted for 30.5 days on commodity size products in dynamic test cylinders using diluent water at nominal temperatures of 5, 15, and 25 degrees C and pH of 5.5, 7.0 and 8.5. Samples collected on days 1.5, 2.5, 4.5, 7.5, 10.5, 15.5, 22.5, and 30.5 were analyzed for total copper and tebuconazole (TEB). The treated wood was then leached for an additional 307.6 to 386.8 days in an experimental pond to confirm long term preservative loss rates. A suite of bioassays were conducted on day 0.5 effluent. Copper and TEB loss rates declined exponentially with time and appeared to reach steady state losses at the end of about week 3. Predictive equations describing these loss rates, for use in developing a risk assessment model, were developed using non-linear regression analysis. Bioassay results indicated that environmental risks associated with CA-B preserved wood can be evaluated solely on copper predictions and water quality criteria for copper. The TEB did not add to the toxicity of the effluent. In fact, it appears that the increased dissolved organic carbon associated with TEB and wood extractives reduced the copper's toxicity in the effluent. These studies were conducted at dilution water flow rates much lower than could be anticipated in open aquatic environments. Dilution factors in very slow flowing streams or lakes, where current speeds might be as low as 1.0 cm/sec, are 468 times higher than the flows created in these tests.

Preliminary modeling indicates that a pier sitting on 25 CA-B treated piling in freshwater flowing at a very low current speed of 2.0cm/sec (typical of many small lakes) would increase the copper concentrations by 0.28 µg Cu/L at pH 6.5. This suggests that CA-B preserved piling can be used in most surface waters that do not closely approach or exceed EPA water quality criteria. However, the models will provide a basis for conducting site specific risk assessments where large volumes of treated wood are proposed for immersion in poorly circulating bodies of water.

13. DISPOSAL CONSIDERATIONS

Disposal Guidance: DO NOT BURN TREATED WOOD. Do not use pressure treated chips or sawdust as mulch. Dispose of in accordance with local, state and federal regulations. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This product is typically not considered a hazardous waste but State run waste programs may be more stringent. Check with your local or state regulators prior to disposal.

14. TRANSPORT INFORMATION

DOT Hazardous Material Classification: This material is not regulated as a hazardous material by the DOT.

15. REGULATORY INFORMATION

OSHA (29 CFR 1910.1200): This product is regulated under the Hazard Communication Standard.
RCRA (40 CFR 261): DO NOT BURN TREATED WOOD. Do not use pressure treated chips or sawdust as mulch. Dispose of in accordance with local, state and federal regulations. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This product is typically not considered a hazardous waste but State run waste programs may be more stringent. Check with your local or state regulators prior to disposal.
SARA 313 (40 CFR 372): Unless exempted, this product may require a Toxic Release Inventory reporting for individual material uses of 25,000 pounds or more. Reporting is under Copper Compounds. It is the user's responsibility to determine applicability of reporting requirements and exemptions.
California Proposition 65: No

ABBREVIATIONS

OSHA	Occupational Safety and Health Administration	**TLV**	Threshold Limit Value
NFPA	National Fire Protection Association	**STEL**	Short-Term Exposure Limit
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act	**RCRA**	Resource Conservation and Recovery Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	**ACGIH**	American Conference of Governmental Industrial Hygienists
SARA	Superfund Authorization and Reauthorization Act	**NIOSH**	National Institute of Occupational Safety and Health
PEL	Permissible Exposure Limit	**TSCA**	Toxic Substances Control Act
DOT	Department of Transportation	**IARC**	International Agency for Research on Cancer
NTP	National Toxicology Program	**IBC**	International Building Code
CFR	Code of Federal Regulations	**mg/m3**	Milligrams per cubic meter
CWA	Clean Water Act	**CAA**	Clean Air Act
CAS	Chemical Abstracts Service		

NOTICE: While the information and recommendations set forth herein are believed to be accurate as of the date hereof this company makes no guarantee or warranty, expressed or implied, as to the accuracy, reliability, or completeness of the information.

Alan M Lacy

From: "Randell Lillard" <rlillard@madwood.com>
To: "'Alan Lacy'" <alacy@ensatcorp.com>
Sent: Wednesday, February 20, 2008 12:34 PM
Subject: MSDS CCA lumber

MATERIAL SAFETY DATA SHEET
WOLMANIZED® TREATED WOOD AND LUMBER
January 1, 2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Wolmanized® Treated Wood and Lumber
General Use: Treated Wood Products

MANUFACTURER:

Madison Wood Preservers
216 Oak Park Road
Madison, VA 22727

EMERGENCY TELEPHONE NUMBERS:

800-844-8383
540-948-6801

2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	PERCENT	CAS #	EXPOSURE LIMITS (mg/m^3)		
			OSHA-PEL	ACGIH-TLV	ACGIH-STEL
Chromic Acid	<2*	7738-94-5	(as Cr) 0.1 (Ceiling)	0.05	None
Arsenic Acid	<2*	7778-39-4	(as As)0.01	0.01	None
Copper Oxide	<2*	1317-38-0	(as Cu) 1.0 (dusts/mists)	1.0 (dusts/mists)	None
Wood Dust**			15.0 (softwood)	5.0 (softwood)	15.0 (STEL)
Formaldehyde***		50-00-0	1ppm		2ppm STEL

**Based upon 0.6 pounds of CCA per cubic foot of wood. Actual retention may vary slightly due to differences in wood stock and treatment retention levels.*

***A state-run OSHA program may have more stringent limits for wood dust and/or PNOR.*

******Only applies to Plywood Products***

3. HAZARDS IDENTIFICATION

Inhalation: Airborne treated or untreated wood dust may cause nose, throat or lung irritation. Various species of untreated wood dust can elicit allergic respiratory response in sensitized persons.
Eye Contact: Treated or untreated wood dust may cause mechanical irritation.
Skin Contact: Handling wood may result in skin exposure to splinters. Prolonged and/or repeated contact with treated or untreated wood dust may result in mild irritation. Various species of untreated wood dust can elicit allergic type skin irritation in sensitized persons.
Ingestion: Not anticipated to occur. A single ingestion of a very large dose of treated wood dust may require immediate medical attention.
Chronic Wood Dust (treated or untreated) Effects: Wood dust, depending on species, may cause dermatitis on prolonged, repetitive contact; may cause respiratory sensitization and/or irritation.

4. FIRST AID MEASURES

Inhalation: Remove from wood dust exposure. If breathing has stopped, administer artificial respiration. Seek medical aid if symptoms persist.

Eye Contact: Gently flush any particles from the eyes with large amounts of water for at least 15 minutes. DO NOT RUB THE EYES. Seek medical aid if irritation persists.
Skin Contact: Rinse wood dust off with water. DO NOT RUB. Once the skin is free of the wood dust, wash thoroughly with soap and water. Seek medical aid if severe irritation develops.
Ingestion: Rinse the victim's mouth out with water. Do not induce vomiting. If symptoms develop, call a physician or poison center at (800) 837-0496 (Outside the US call 1-404-616-9000).
One ounce of treated wood dust per 10 pounds of body weight ingested may cause acute arsenic intoxication.

5. FIRE FIGHTING MEASURES

Flash Point	NA	**Lower Explosive Limit**	NA
Auto-ignition	NA	**Upper Explosive Limit**	NA

Extinguishing Agents: Not applicable
Fire-Fighting Procedures: Fire from a separate fuel source may be intense enough to cause thermal decomposition releasing toxic fumes and/or gases. Wear complete fire service protective equipment, including full-face NIOSH/NFPA – approved self-containing breathing apparatus.
Fire and Explosion Hazard: High airborne levels of wood dust may burn rapidly in the air when exposed to an ignition source.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Not applicable.
Waste Disposal: See Section 13.

7. HANDLING AND STORAGE

Storage Conditions: Protect from physical damage. Maintain good housekeeping.
Caution: DO NOT BURN TREATED WOOD. Do not use pressure treated chips or sawdust as mulch. Whenever possible, sawing or machining treated or untreated wood should be performed outdoors to avoid accumulations of airborne wood dust. Wash hands thoroughly before eating, drinking, using tobacco products, and/or using restrooms.
NOTE: For plywood products only, provide adequate ventilation to reduce the possible buildup of formaldehyde vapors.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: None normally required. When sawing or cutting treated or untreated wood, wear a NIOSH approved N95 or better dust mask.
Eye Protection: Wear safety glasses with side shields or safety goggles when sawing or cutting.
Skin/Foot Protection: Wear leather or comparable gloves to prevent splinters. Wear long sleeve shirt, pants and steel toed shoes when handling treated or untreated wood
Ventilation: Saw, cut or machine wood outdoors or in well ventilated areas. Ventilation should be sufficient to maintain inhalation exposures below OSHA PEL for particulates.
Other Protective Equipment: Wear ear plugs or muffs when using power tools.
NOTE: For plywood products only, if Formaldehyde vapor level exceeds OSHA PEL or STEL, then a NIOSH approved respirator is required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Natural to slightly green	**Specific Gravity (Water =1)**	NA
Odor	None	**Boiling Point**	NA
Solubility in Water	NA	**Vapor Density (Air=1)**	NA
Physical State	Solid	**Vapor Pressure**	NA
pH	NA	**Freezing Point**	NA

10. STABILITY AND REACTIVITY

Conditions Contributing to Instability: None known.
Incompatibilities: Strong acids, open flame and oxidizers.
Hazardous Reactions/Decomposition/Combustion Products: Contact with strong acid may release metals. Combustion products may include smoke, oxides of carbon, nitrogen and copper. If the fire is intense enough, some arsenic trioxide may be released into the smoke. The metals will remain in the ash if the wood is burned.
Hazardous Polymerization: Does not occur.

11. TOXICOLOGICAL INFORMATION

Study Abstracts: In Hawaii, where over 45,000 homes have been built almost entirely of CCA-treated wood, a study was conducted by the Pacific Biomedical Center of the University of Hawaii (the Budy-Rashad study) in 1977 to determine any possible effect on the health of carpenters. The study concluded that exposure to CCA-treated sawdust is not associated with increased risk of total cancer, lung cancer or lymphatic cancer and shows that excess respiratory cancer mortality was not observed in the carpenters.

A study was conducted by the University of Alabama to evaluate the teratogenicity of CCA-impregnated sawdust when exposed to rabbits and mice. Sawdust from CCA-treated wood has been shown not to cause chromosome damage or teratogenic effects in mice fed sawdust nor to cause birth defects in rabbits receiving sawdust applied to their skin.

A series of reports released in 1990 from the Consumer Product Safety Commission (CPSC) assessed the risk of cancer to children playing on CCA-treated wood playground equipment. Seven playground equipment samples were collected. The results of the study indicated the approximate risk of cancer from five samples was less than one in a million, a risk considered negligible. The remaining two samples yielded estimated risks of 3-4 in a million, also considered by CPSC to be a small risk.

Carcinogenic status: IARC, the NTP, OSHA and California Proposition 65 do not consistently distinguish among arsenic or chrome species but list inorganic arsenic and chromium and certain chromium compounds as human carcinogens. Cancers in humans have followed from long term:
consumption of Fowler's Solution, a medicinal trivalent arsenical; inhalations and skin contact with inorganic trivalent arsenical sheep-dust; the combined inhalation of arsenic trioxide (trivalent arsenical), sulfur dioxide, and other particulates from ore smelting in arsenic trioxide production; and occupational exposure to nonwater-soluble hexavalent chromium.

Carcinogenicity Data: IARC has classified untreated hardwood and hardwood/softwood mix wood dust as a Group I human carcinogen. The wood dust classification is based primarily on IARC's evaluation of increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with occupational exposures to untreated wood dust. NTP has classified all untreated wood dust as a carcinogen.

12. ECOLOGICAL INFORMATION

Study Abstracts: A technical paper published in the Forest Products Journal (September, 1974) by Levi, Huisingh and Nesbitt described a study conducted to determine if CCA wood preservative in grapevine support posts might be absorbed by the vines, leaves and/or grapes. This study concluded that "... CCA preservatives are bound in wood, are not readily leached and are not concentrated in plants growing close to the treated wood."

The Springborn Laboratories Environmental Sciences Division in 1993 conducted a sediment exposure study using leachate from CCA treated and untreated marine pilings and exposing Ampelisca abdita for a period of 10 days. Survival of the organisms during the 10-day exposure period was the biological endpoint used to establish the effects of exposure. Results indicated that leachate from treated pilings had no adverse effect on organism survival. It was concluded that the primary constituents of the CCA-treated wood piling were not present in the leachate at concentrations which would adversely affect the survival of the organisms.

Arch Wood Protection has conducted tests to evaluate treated wood used in raised vegetable gardens. Vegetables harvested from gardens in raised bed structures built of CCA-treated wood were compared with vegetables grown in untreated raised bed structures and with vegetables purchased at a local grocery store. Testing revealed that all vegetables contained minuscule amounts of each element in CCA. In some cases, the levels of metals were actually higher in the vegetables grown in untreated bins, and in one case the store-purchased vegetable had the highest level of arsenic. The report concluded that there was "no uptake of the metal constituents into the vegetables."

The Food and Drug Administration's (FDA) "Market Basket Survey" has consistently shown that arsenic in tomatoes is below the analytical level of detection despite the increased usage of arsenically-treated wood for tomato stakes. Moreover, even though CCA-treated wood has been increasingly used in applications such as cattle bunks and stalls

12. ECOLOGICAL INFORMATION CONT'D

and poultry brooders for the last ten years, the FDA survey has shown a decrease in the arsenic content of dairy, meat and poultry products.

A study funded in part by the National Oceanic and Atmospheric Administration (NOAA) and prepared by the Marine Resources Division of the South Carolina Department of Natural Resources in 1995 measured the impact of wood preservative leachate from docks in an estuarine environment. Copper, chromium, arsenic, and polynuclear aromatic hydrocarbons (PAHs) were measured in composite samples of sediments and naturally occurring oyster populations from creeks with high densities of docks, and from nearby reference creeks with no docks. Sediments from all but one site had metal and total PAH concentrations which were below levels reported to cause biological effects, and the oysters showed no significant difference in their physiological condition. Bioassays were also conducted on four common estuarine species and hatchery-reared oysters. The results suggest that wood preservative leachates from dock pilings have no acutely toxic effects on these common species, nor do they affect the survival or growth of juvenile oysters over a six-week period. In some cases, metal leachates may accumulate in sediments and oysters immediately adjacent to pilings, but do not appear to become concentrated in sediments or oysters elsewhere in the same creeks.

13. DISPOSAL CONSIDERATIONS

Disposal Guidance: DO NOT BURN TREATED WOOD. Do not use pressure treated chips or sawdust as mulch. Dispose of in accordance with local, state and federal regulations. This product is exempted as a hazardous waste under any sections of the RCRA regulations as long as the product is being utilized for its intended end use as stated in 40 CFR 261.4 (b) (9). State run hazardous waste programs may be more stringent.

14. TRANSPORT INFORMATION

DOT Hazardous Material Classification: This material is not regulated as a hazardous material by the DOT.

15. REGULATORY INFORMATION

RCRA (40 CFR 261): DO NOT BURN TREATED WOOD. Do not use pressure treated chips or sawdust as mulch. Dispose of in accordance with local, state and federal regulations. This product is exempted as a hazardous waste under any sections of the RCRA regulations as long as the product is being utilized for its intended end use as stated in 40 CFR 261.4 (b) (9). Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Check local and state regulations, as they may be more stringent. State run hazardous waste programs may be more stringent.
OSHA (29 CFR 1910.1200): This product is regulated under the Hazard Communication Standard.
California Proposition 65: This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. (This statement issued in accordance with California Proposition 65).

ABBREVIATIONS

OSHA	Occupational Safety and Health Administration	**TLV**	Threshold Limit Value
NFPA	National Fire Protection Association	**STEL**	Short-Term Exposure Limit
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act	**RCRA**	Resource Conservation and Recovery Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	**ACGIH**	American Conference of Governmental Industrial Hygienists
SARA	Superfund Authorization and Reauthorization Act	**NIOSH**	National Institute of Occupational Safety and Health
PEL	Permissible Exposure Limit	**TSCA**	Toxic Substances Control Act
DOT	Department of Transportation	**IARC**	International Agency for Research on Cancer
NTP	National Toxicology Program	**IBC**	International Building Code
CFR	Code of Federal Regulations	**mg/m3**	Milligrams per cubic meter
CWA	Clean Water Act	**CAA**	Clean Air Act
CAS	Chemical Abstracts Service		

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Attachment D

VDEQ Correspondence

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3821
www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

February 15, 2013

Via Email (alacy@ensatcorp.com)

Mr. Alan Lacy
Senior Project Engineer
ENSAT Corporation
14115 Lovers Lane, Suite 158
Culpeper, VA 22701

Re: Madison Wood Preservers
Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0087696

Dear Mr. Lacy:

Thank you for your correspondence dated February 5, 2013, regarding sampling and testing waivers associated with the referenced VPDES permit reissuance application. Staff has reviewed Madison Wood Preserver's sampling and testing waiver request and has the following comments.

Waiver Request
Madison Wood Preservers requested a waiver of all sampling and testing requirements in the application forms.

Staff Response
Part VII.A (EPA Form 2F) requires the permittee to provide the results of at least one analysis for every parameter found within the table. If the facility's VPDES permit requires monitoring for any of the parameters in Part VII.A, previously collected data may be used to complete this section of the application. As such, additional testing would not be required. Otherwise, at least one result for each of the parameters in Part VII.A is required.

Part VII.B (EPA Form 2F) requires the permittee to provide the analytical results of each pollutant limited in a Federal Effluent Guideline for which the facility is subject or any pollutant listed in the facility's VPDES permit for its process wastewater. 40 CFR Part 429 establishes Federal Effluent Limitation Guidelines for the Timber Products Processing Point Source Category. Based on previous reviews of the sixteen subcategories listed within Part 429, it was determined that none are applicable to the operations at Madison Wood Preservers. Therefore, analytical data is required for the following parameters required by the facility's VPDES permit: Pentachlorophenol, Total Hardness, Chemical Oxygen Demand, Dissolved Arsenic, Dissolved Chromium, Dissolved Copper, and Ethanolamine. Previously collected data may be used to complete this section of the application. As such, additional testing would not be required.

Part VII.C (EPA Form 2F) requires the permittee to provide analytical results for any of the pollutants listed that are known or that the permittee has reason to believe are present. If none of the pollutants within this section are known to be present or there is no reason to believe they are present, testing is not required. However, if the permittee knows or has reason to believe a particular pollutant is present analysis shall be required.

If you have any questions, please contact Susan Mackert at (703) 583-3853 or by email at susan.mackert@deq.virginia.gov.

Respectfully,

Bryant Thomas
Water Permits and Planning Manager

cc: VA0087696 – Reissuance File